

Table with deviations for class F 0.6 / F 0.3 / F 0.15 / F 0.1

according to DIN EN 60751

Calculation basis:						Notes on the table $R_0 = 100 \Omega$			
$t \geq 0$		$R_t = R_0 \cdot (1 + At + Bt^2)$		$t < 0$		$R_t = R_0 \cdot [1 + At + Bt^2 + C(t - 100^\circ\text{C})t^3]$		(X.XX) This range applies to sensor types C220, C420 and C416 (cryo)	
with constants:		$A = 3.9083 \cdot 10^{-3} \text{ } ^\circ\text{C}^{-1}$ $B = -5.775 \cdot 10^{-7} \text{ } ^\circ\text{C}^{-2}$		with constants:		$A = 3.9083 \cdot 10^{-3} \text{ } ^\circ\text{C}^{-1}$ $B = -5.775 \cdot 10^{-7} \text{ } ^\circ\text{C}^{-2}$ $C = -4.183 \cdot 10^{-12} \text{ } ^\circ\text{C}^{-4}$		(X.XX) Only theoretical values (not covered by DIN EN 60751)	
Class	Validity range [°C]	Tolerance value [°C]							
F 0.1 (1/3B)	0 to +150	$\Delta t = \pm(0.1 + 0.0017 \cdot t)$							
F 0.15 (A)	-50 to +300	$\Delta t = \pm(0.15 + 0.002 \cdot t)$							
F 0.3 (B)	-70 to +500	$\Delta t = \pm(0.3 + 0.005 \cdot t)$							
F 0.6 (2B)	-70 to +600	$\Delta t = \pm(0.6 + 0.01 \cdot t)$							
Nominal value $R_0 = 100 \Omega$									
$R_0 = 100 \Omega$		F 0.6 (2B)		F 0.3 (B)		F 0.15 (A)		F 0.1 (1/3B)	
Temp.	Nominal Resistance	Resistance deviation	Temperature deviation	Resistance deviation	Temperature deviation	Resistance deviation	Temperature deviation	Resistance deviation	Temperature deviation
t [°C]	R [Ω]	[$\pm\Omega$]	[$\pm\text{K}$]	[$\pm\Omega$]	[$\pm\text{K}$]	[$\pm\Omega$]	[$\pm\text{K}$]	[$\pm\Omega$]	[$\pm\text{K}$]
-200	18.52	(1.12)	(2.60)	(0.56)	(1.30)	(0.24)	(0.55)	(0.19)	(0.44)
-190	22.83	(1.07)	(2.50)	(0.54)	(1.25)	(0.23)	(0.53)	(0.18)	(0.42)
-180	27.10	(1.02)	(2.40)	(0.51)	(1.20)	(0.22)	(0.51)	(0.17)	(0.41)
-170	31.34	(0.97)	(2.30)	(0.49)	(1.15)	(0.21)	(0.49)	(0.16)	(0.39)
-160	35.54	(0.92)	(2.20)	(0.46)	(1.10)	(0.20)	(0.47)	(0.16)	(0.37)
-150	39.72	(0.87)	(2.10)	(0.44)	(1.05)	(0.19)	(0.45)	(0.15)	(0.36)
-140	43.88	(0.83)	(2.00)	(0.41)	(1.00)	(0.18)	(0.43)	(0.14)	(0.34)
-130	48.00	(0.78)	(1.90)	(0.39)	(0.95)	(0.17)	(0.41)	(0.13)	(0.32)
-120	52.11	(0.74)	(1.80)	(0.37)	(0.90)	(0.16)	(0.39)	(0.12)	(0.30)
-110	56.19	(0.69)	(1.70)	(0.35)	(0.85)	(0.15)	(0.37)	(0.12)	(0.29)
-100	60.26	(0.65)	(1.60)	(0.32)	(0.80)	(0.14)	(0.35)	(0.11)	(0.27)
-90	64.30	(0.60)	(1.50)	(0.30)	(0.75)	(0.13)	(0.33)	(0.10)	(0.25)
-80	68.33	(0.56)	(1.40)	(0.28)	(0.70)	(0.12)	(0.31)	(0.09)	(0.24)
-70	72.33	0.52	1.30	0.26	0.65	(0.12)	(0.29)	(0.09)	(0.22)
-60	76.33	0.48	1.20	0.24	0.60	(0.11)	(0.27)	(0.08)	(0.20)
-50	80.31	0.44	1.10	0.22	0.55	0.10	0.25	(0.07)	(0.19)
-40	84.27	0.40	1.00	0.20	0.50	0.09	0.23	(0.07)	(0.17)
-30	88.22	0.35	0.90	0.18	0.45	0.08	0.21	(0.06)	(0.15)
-20	92.16	0.31	0.80	0.16	0.40	0.07	0.19	(0.05)	(0.13)
-10	96.09	0.27	0.70	0.14	0.35	0.07	0.17	(0.05)	(0.12)
0	100.00	0.23	0.60	0.12	0.30	0.06	0.15	0.04	0.10
10	103.90	0.27	0.70	0.14	0.35	0.07	0.17	0.05	0.12
20	107.79	0.31	0.80	0.16	0.40	0.07	0.19	0.05	0.13
30	111.67	0.35	0.90	0.17	0.45	0.08	0.21	0.06	0.15
40	115.54	0.39	1.00	0.19	0.50	0.09	0.23	0.06	0.17
50	119.40	0.42	1.10	0.21	0.55	0.10	0.25	0.07	0.19
60	123.24	0.46	1.20	0.23	0.60	0.10	0.27	0.08	0.20
70	127.08	0.50	1.30	0.25	0.65	0.11	0.29	0.08	0.22
80	130.90	0.53	1.40	0.27	0.70	0.12	0.31	0.09	0.24
90	134.71	0.57	1.50	0.29	0.75	0.13	0.33	0.10	0.25
100	138.51	0.61	1.60	0.30	0.80	0.13	0.35	0.10	0.27
110	142.29	0.64	1.70	0.32	0.85	0.14	0.37	0.11	0.29
120	146.07	0.68	1.80	0.34	0.90	0.15	0.39	0.11	0.30
130	149.83	0.71	1.90	0.36	0.95	0.15	0.41	0.12	0.32
140	153.58	0.75	2.00	0.37	1.00	0.16	0.43	0.13	0.34
150	157.33	0.78	2.10	0.39	1.05	0.17	0.45	0.13	0.36

The mentioned table values were calculated to the polynomial of DIN EN 60751 with microsoft excel.

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Nominal value $R_0 = 100 \Omega$

$R_0 = 100 \Omega$		F 0.6 (2B)		F 0.3 (B)		F 0.15 (A)		F 0.1 (1/3B)	
Temp.	Nominal Resistance	Resistance deviation	Temperature deviation	Resistance deviation	Temperature deviation	Resistance deviation	Temperature deviation	Resistance deviation	Temperature deviation
t [°C]	R [Ω]	[$\pm\Omega$]	[$\pm K$]	[$\pm\Omega$]	[$\pm K$]	[$\pm\Omega$]	[$\pm K$]	[$\pm\Omega$]	[$\pm K$]
160	161.05	0.82	2.20	0.41	1.10	0.17	0.47	(0.14)	(0.37)
170	164.77	0.85	2.30	0.43	1.15	0.18	0.49	(0.14)	(0.39)
180	168.48	0.89	2.40	0.44	1.20	0.19	0.51	(0.15)	(0.41)
190	172.17	0.92	2.50	0.46	1.25	0.20	0.53	(0.16)	(0.42)
200	175.86	0.96	2.60	0.48	1.30	0.20	0.55	(0.16)	(0.44)
210	179.53	0.99	2.70	0.49	1.35	0.21	0.57	(0.17)	(0.46)
220	183.19	1.02	2.80	0.51	1.40	0.22	0.59	(0.17)	(0.47)
230	186.84	1.06	2.90	0.53	1.45	0.22	0.61	(0.18)	(0.49)
240	190.47	1.09	3.00	0.54	1.50	0.23	0.63	(0.18)	(0.51)
250	194.10	1.12	3.10	0.56	1.55	0.24	0.65	(0.19)	(0.53)
260	197.71	1.15	3.20	0.58	1.60	0.24	0.67	(0.20)	(0.54)
270	201.31	1.19	3.30	0.59	1.65	0.25	0.69	(0.20)	(0.56)
280	204.90	1.22	3.40	0.61	1.70	0.25	0.71	(0.21)	(0.58)
290	208.48	1.25	3.50	0.63	1.75	0.26	0.73	(0.21)	(0.59)
300	212.05	1.28	3.60	0.64	1.80	0.27	0.75	(0.22)	(0.61)
310	215.61	1.31	3.70	0.66	1.85	(0.27)	(0.77)	(0.22)	(0.63)
320	219.15	1.34	3.80	0.67	1.90	(0.28)	(0.79)	(0.23)	(0.64)
330	222.68	1.37	3.90	0.69	1.95	(0.29)	(0.81)	(0.23)	(0.66)
340	226.21	1.41	4.00	0.70	2.00	(0.29)	(0.83)	(0.24)	(0.68)
350	229.72	1.44	4.10	0.72	2.05	(0.30)	(0.85)	(0.24)	(0.70)
360	233.21	1.47	4.20	0.73	2.10	(0.30)	(0.87)	(0.25)	(0.71)
370	236.70	1.50	4.30	0.75	2.15	(0.31)	(0.89)	(0.25)	(0.73)
380	240.18	1.53	4.40	0.76	2.20	(0.32)	(0.91)	(0.26)	(0.75)
390	243.64	1.55	4.50	0.78	2.25	(0.32)	(0.93)	(0.26)	(0.76)
400	247.09	1.58	4.60	0.79	2.30	(0.33)	(0.95)	(0.27)	(0.78)
410	250.53	1.61	4.70	0.81	2.35	(0.33)	(0.97)	(0.27)	(0.80)
420	253.96	1.64	4.80	0.82	2.40	(0.34)	(0.99)	(0.28)	(0.81)
430	257.38	1.67	4.90	0.84	2.45	(0.34)	(1.01)	(0.28)	(0.83)
440	260.78	1.70	5.00	0.85	2.50	(0.35)	(1.03)	(0.29)	(0.85)
450	264.18	1.73	5.10	0.86	2.55	(0.36)	(1.05)	(0.29)	(0.87)
460	267.56	1.75	5.20	0.88	2.60	(0.36)	(1.07)	(0.30)	(0.88)
470	270.93	1.78	5.30	0.89	2.65	(0.37)	(1.09)	(0.30)	(0.90)
480	274.29	1.81	5.40	0.91	2.70	(0.37)	(1.11)	(0.31)	(0.92)
490	277.64	1.84	5.50	0.92	2.75	(0.38)	(1.13)	(0.31)	(0.93)
500	280.98	1.86	5.60	0.93	2.80	(0.38)	(1.15)	(0.32)	(0.95)
510	284.30	1.89	5.70	(0.95)	(2.85)	(0.39)	(1.17)	(0.32)	(0.97)
520	287.62	1.92	5.80	(0.96)	(2.90)	(0.39)	(1.19)	(0.33)	(0.98)
530	290.92	1.94	5.90	(0.97)	(2.95)	(0.40)	(1.21)	(0.33)	(1.00)
540	294.21	1.97	6.00	(0.98)	(3.00)	(0.40)	(1.23)	(0.33)	(1.02)
550	297.49	1.99	6.10	(1.00)	(3.05)	(0.41)	(1.25)	(0.34)	(1.04)
560	300.75	2.02	6.20	(1.01)	(3.10)	(0.41)	(1.27)	(0.34)	(1.05)
570	304.01	2.05	6.30	(1.02)	(3.15)	(0.42)	(1.29)	(0.35)	(1.07)
580	307.25	2.07	6.40	(1.04)	(3.20)	(0.42)	(1.31)	(0.35)	(1.09)
590	310.49	2.10	6.50	(1.05)	(3.25)	(0.43)	(1.33)	(0.36)	(1.10)
600	313.71	2.12	6.60	(1.06)	(3.30)	(0.43)	(1.35)	(0.36)	(1.12)

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